

A few adults of *Sarcophaga* species, many of *Sepsis violacea* Meigen, and a few of another Muscid dipteran, were reared from the droppings infested with *cornicina*.

The determinations of the Diptera were made by Mr. Coquillett, and of the hymenopteron by Mr. Crawford, both of the U. S. National Museum, through the kindness of Dr. L. O. Howard.

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## ON NORTH AMERICAN AND SOME CUBAN COPELATUS.

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*Copelatus cælatipennis* Aubé, Spec. Gen., VI, p. 382.

I have taken a specimen in Brownsville, Texas, and Mr. Roberts has a number of specimens from Sanford, Jacksonville and Taylor County, Florida, which are referable to this species. It is near *glyphicus*, but dull, not shining, generally smaller and narrower; apices of elytra feebly attenuate and subacute; thorax in both sexes with very fine scratches over the entire surface; the front tibiæ at base distinctly curved on the upper edge, and the front and middle tarsi of the male much more broadly dilated than in *glyphicus*; the head, thorax, a basal fascia, and generally the sides of elytra, ferruginous, the thorax sometimes darker at middle; base of elytra in both sexes with more or less distinct, short scratches.

*Copelatus impressicollis* Sharp, Trans. Roy. Dub. Soc. n. s., II, p. 589.

I took a few specimens in the Huachuca Mts., Arizona, which I refer to this species. It is a larger and darker insect than *glyphicus*, with an equal number of discal striæ on each elytron, but slightly shorter at base and apex; front tibiæ of the male are simple and the tarsi much dilated; the thorax has a few scratches at sides in the male, these extend over nearly the entire surface in the female. One female has on the elytral intervals a number of short, impressed, longitudinal lines and between the ninth and tenth striæ and the tenth and the submarginal striæ an additional, but abbreviated stria of somewhat irregular outline. The other female shows scarcely any impressed lines on the disk, but has them at sides; the additional striæ are also present but much shorter and still more irregular.

*Copelatus chevrolatii* var. *australis*, new variety.

Two forms of *C. chevrolatii* occur. The dark, piceous specimens have a short apical stria near suture on each elytron in addition to the eight discal striae. These occur in Florida and probably in Georgia and are the typical *chevrolatii*. The other form, for which I propose the varietal name *australis*, is pale castaneous, without trace of the short apical stria near suture, and occurs in Texas, New Mexico, Arizona and California. Judging from the material before me the differences between the two forms seem to be constant and I have seen one or the other labelled "*var.*" or "*n. sp.*" in some collections.

TABLE OF THE NORTH AMERICAN SPECIES OF COPELATUS.

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|---|-------------------------------|
| 1. Each elytron with ten discal striæ, the alternate striæ more or less abbreviated at apex .....   | 2                             |
| Each elytron with less than ten discal striæ.....   | 3                             |
| 2. Front tibiæ of male curved at base; front and middle tarsi of male broadly dilated; thorax in both sexes with short, fine scratches over surface; elytra at base with a transverse ferruginous fascia.....                               | <i>calatipennis</i> Aubé.     |
| Front tibiæ of male not curved at base, nearly straight, suddenly widening inside from basal third; front and middle tarsi of male feebly dilated; thorax in the female with or without a very few, fine scratches at sides; color uniform. | <i>glyphicus</i> Say          |
| Front tibiæ of male not curved at base, inside gradually widening to apex; thorax in both sexes with fine scratches which are confined in the male to the sides of thorax but extend over nearly the entire surface in the female.          | <i>impressicollis</i> Sharp.  |
| 3. Each elytron with eight entire striæ and an additional short sutural stria, which latter never extends over apical half; elytra piceous.....   | <i>chevrolatii</i> Aubé.      |
| Each elytron with eight entire striæ; but without short sutural stria; elytra pale castaneous.....  | var. <i>australis</i> n. var. |

Wishing to compare the Texas and Florida specimens, which I identified as *calatipennis*, with specimens from Cuba, I applied for the Cuban species of *Copelatus* in the collection of the National Museum. The species was, however, not represented in the material, which was kindly sent me by Mr. H. S. Barber, but the following observations made on some of the species may prove to be of some interest.

*Copelatus insolitus* Chev., Ann. Fr., 1863, p. 201.

Three specimens, one male and two females of this species are before me which were collected by H. G. Hubbard in Jamaica, W. I. The female was not known to Chevrolat nor to Dr. Sharp, and as it differs from the male, the following note may be of interest. The male of this species has the elytra without striæ, but has a few discal

rows of punctures; the submarginal stria is absent. The female has five or six impressed striæ at sides on each elytron in addition to the discal rows of punctures, but all the striæ are very short and much abbreviated at base and apex, the marginal stria is absent. In one specimen the striæ are much better marked than in the other.

**Copelatus cubaënsis, new species.**

Form of *glyphicus*, fuscous; underside, legs, antennæ and a transverse basal fascia, paler. Head finely but not very densely punctate. Thorax transverse; hind angles rounded; front angles prominent, acute; impressed on each side, the impression broad near base but narrower towards apex; surface finely punctate and with a few rather indistinct, impressed lines, the punctuation coarser at sides near base. Scutellum smooth. Elytra somewhat prolonged at apex; surface with six entire striæ; sutural striæ abbreviated at base, submarginal striæ not quite reaching to middle; intervals distinctly, but finely punctate, nearly equal in width, the two outer ones slightly narrower than the inner striæ. Underside with more or less distinctly impressed lines. Front tibiae as in *glyphicus*. Length 5 mm.

Cayamas, Cuba, one female in the collections of the National Museum, collected by Mr. E. A. Schwarz.

*Type*. — No. 11545, U. S. N. M.

This species, by the number of elytral striæ and the possession of a submarginal stria, has to be placed in Dr. Sharp's group X and is remarkable for being the first species in this group from the New World.

**Copelatus angustatus Chev.**, Ann. Fr., 1863, p. 201.

A few specimens collected by Mr. Schwarz in Cayamas, Cuba, and identified by him as *angustatus* Chev. are before me. This species was unknown to Dr. Sharp, who gave only Chevrolat's short original description on p. 767 of his monograph "On Aquatic Carnivorous Coleoptera or Dytiscidæ." The specimens agree with the description. They are of the form and size of *glyphicus*, but more shining; base, lateral margin and apex of elytra pale, each elytron with two discal striæ, the submarginal not quite extending to base, surface punctate; thorax in the male without, or with a very few fine scratches at sides in the female; front and middle tarsi more dilated than in *glyphicus*.